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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,848	12/28/2000	Maged E. Beshai	9-13528-55US	6090

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CANADA

EXAMINER

PHUNKULH, BOB A

ART UNIT	PAPER NUMBER
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2661

3

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/748,848

Applicant(s)

BESHAI, MAGED E.

Examiner

Bob A. Phunkulh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 18, 19 and 22-32 is/are rejected.
- 7) ☒ Claim(s) 12, 14-17, 20-21, 33-34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-11, 13, 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Cotton et al. (US 5,623,489), hereinafter Cotton.

Regarding claim 1, Cotton discloses a high capacity distributed packet switch comprising:

a) a plurality of edge modules (modules 20, see figure 1), each edge module including at least three input/output ports, the at least three input/output ports being organized in a group of J dual ports, a group of K dual ports and a group of L dual ports; wherein

b) the group of J dual ports is connected by communication links to a single regional core center (ports connected to switch 30, see figure 1);

c) the group of L dual ports is connected by communications links to a plurality of global core centers (central office 14, figure 1); and

d) the group of K dual ports is connected by communications links to data traffic sources and data traffic sinks (see tables shown in col. 5 and 6 for possible assignment).

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Regarding claim 2, Cotton discloses the regional core center comprises a number of spatially distributed regional core modules (switch planes, see figure 1) .

Regarding claim 3, Cotton inherently discloses each of the plurality of global core centers comprises spatially distributed global core modules (central office 14 should have the same structure as the switch planes 30, see figure 1).

Regarding claim 4, Cotton discloses each of the regional core modules comprises a plurality of parallel memory-less switches (each switch plane 30 comprises a plurality of parallel memory less switches 26, 28; see figure 1).

Regarding claim 5, Cotton inherently discloses each of the global core modules comprises a plurality of parallel memory-less switches (central office 14 should have the same structure as the switch planes 30, see figure 1).

Regarding claim 8, Cotton discloses the plurality of edge modules are divided into groups, each group defining a region, and said group of J dual-ports of each edge module belonging to a one of the groups is connected exclusively to a respective regional core center (see col. 4 line 54 to col. 5 line 15).

Regarding claim 9, Cotton discloses the L dual ports of said group of L dual ports of each edge module in a group of edge modules are connected directly to selected

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ones of the global core modules (terminal unit 20 is directly connect to the central office 14, see figure 1).

Regarding claim 10, Cotton discloses the dual ports of said group of L dual ports of two or more of the edge modules in a group of edge modules are respectively connected to two or more of the global core modules via a memory-less shuffle stage (via interface 22, see figure 1).

Regarding claim 11, Cotton discloses the dual ports of said group of L dual ports of two or more of the edge modules in a group of edge modules are respectively connected to two or more of the global core modules via a memory-less cross-connector (via interface 22, see figure 1).

Regarding claim 13, Cotton discloses a path between any two edge modules (module in central office 14 and the module in switch plane) in a route passes through at most one adaptive channel-switching module (a route passes through at most one module i.e. interface 20, see figure 1).

Regarding claim 31, Cotton inherently discloses the global core modules all comprise static cross-connectors (central office 14 should have the same structure as the switch planes 30, see figure 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6-7, 18-19, 22-30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton in view of Lee et al. (US 6538784), hereinafter Lee.

Regarding claims 3, 6-7, 23-25, Cotton fails to disclose the plurality of parallel memory-less switches is an optical space switch; and the communication links are optical links that support wavelength multiplexed data channels.

Lee, on the other hand, discloses it is well known in the art to provides a plurality of optical space switches and a plurality of W-MUXs to a conventional optical cross-connect (see figure 2 and col. 1 lines 55-62).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to provide the space switches and W-MUXs of Lee in the Cotton's modules for providing Cotton's system with ability to communication with conventional optical network.

Regarding claims 18-19, 22, 26-30, 32, the combination of Cotton-Lee discloses providing space switches to the modules (see claims 6-7 rejection above). However, the combination of Cotton-Lee fail to explicitly disclose providing different number of

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space switches to the regional or global core modules or reconfiguring the global or regional modules in response to data traffic loads.

However, it would have been obvious to one having ordinary skill in the art at the time of invention was made to provides different number of space switches to the regional or global core modules based on user's need i.e. a global core module will requires more space switches since it usually supports more traffic data than the regional core module.

***Allowable Subject Matter***

Claims 12, 14-17, 20-21, 33-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 872-9314, (for formal communications intended for entry)

**Or:**

Hand-delivered responses should be brought to Crystal Park II, 2021


Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(703) 308-8251**. The examiner can normally be reached on Monday-Friday from 8:00 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Douglas W. Olms**, can be reach on **(703) 305-4703**. The fax phone number for this group is **(703) 872-9314**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Bob A. Phunkulh**



TC 2600  
Art Unit 2661  
August 18, 2004

**BOB PHUNKULH**  
**PRIMARY EXAMINER**